Growing WILD

Spring 1995 *Utah's Project WILD Newsletter*

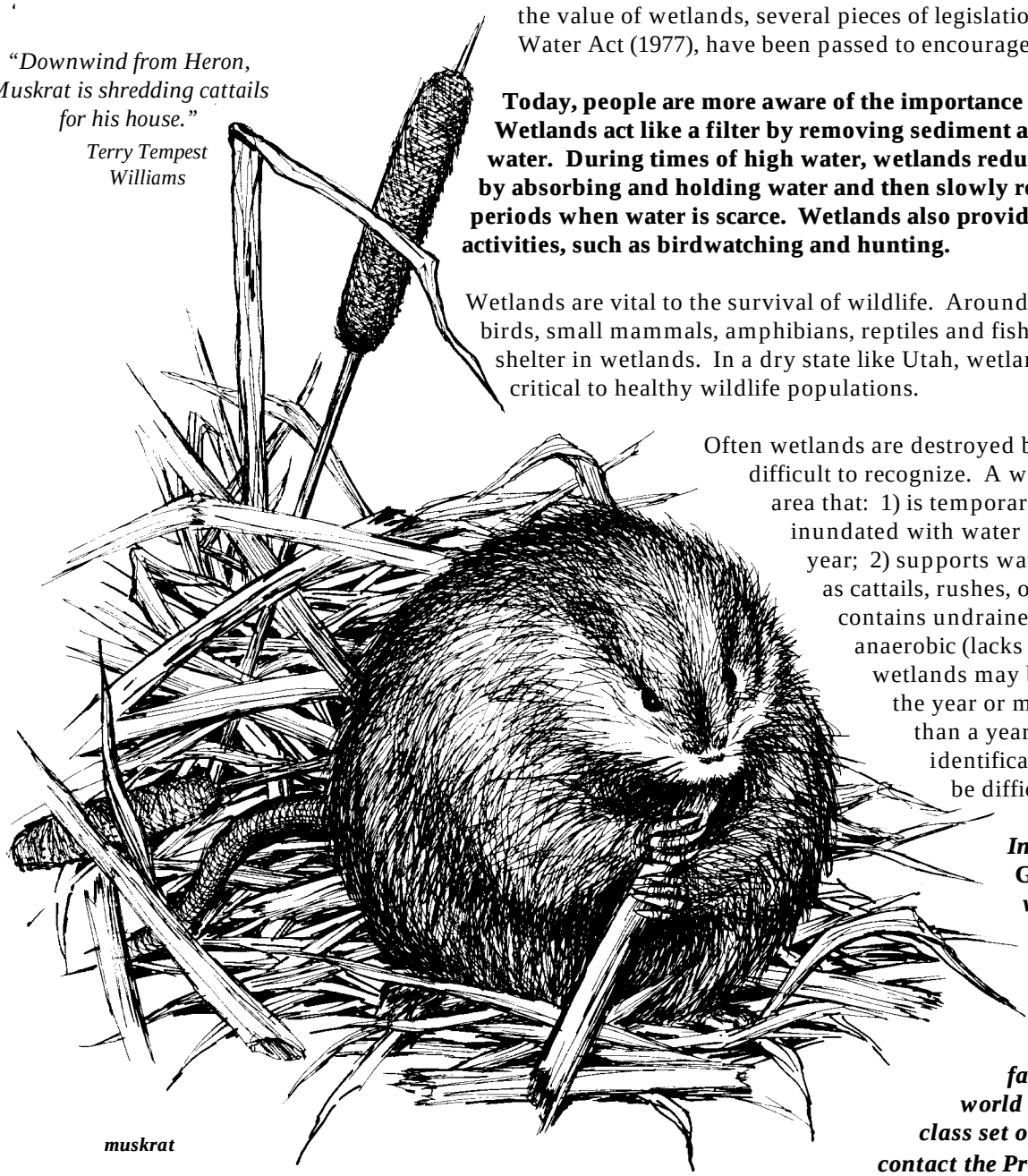
Playas to Marshes...Where Water Meets Land

Wetlands were once viewed as "wastelands." In the late 1800s, landowners were encouraged to drain or fill "water-logged" lands. This practice contributed to the loss of approximately 30 percent of wetlands in Utah and 40-50 percent of wetlands in the United States. That trend has changed. In recognition of the value of wetlands, several pieces of legislation, including the Clean Water Act (1977), have been passed to encourage wetland preservation.

"Downwind from Heron, Muskrat is shredding cattails for his house."
Terry Tempest Williams

Today, people are more aware of the importance of wetlands. Wetlands act like a filter by removing sediment and toxic chemicals in water. During times of high water, wetlands reduce the risk of flooding by absorbing and holding water and then slowly releasing it during periods when water is scarce. Wetlands also provide recreational activities, such as birdwatching and hunting.

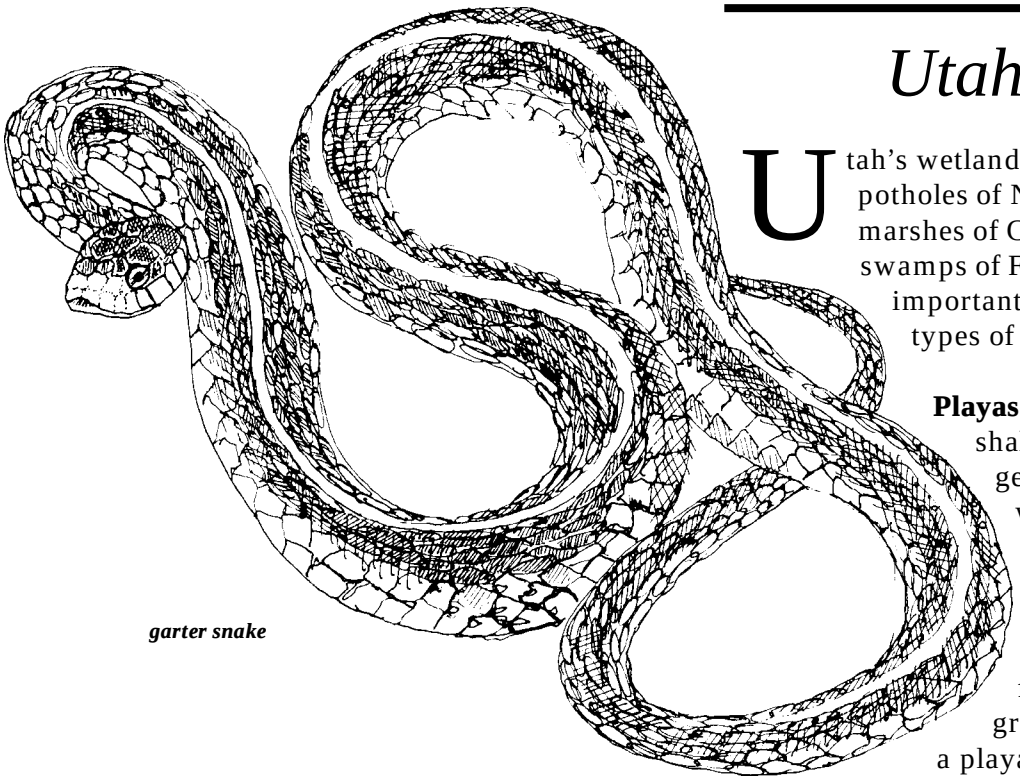
Wetlands are vital to the survival of wildlife. Around the world migratory birds, small mammals, amphibians, reptiles and fish find food, water and shelter in wetlands. In a dry state like Utah, wetlands are especially critical to healthy wildlife populations.



muskrat

Often wetlands are destroyed because they are difficult to recognize. A wetland is defined as an area that: 1) is temporarily or permanently inundated with water during a portion of the year; 2) supports water-loving plants, such as cattails, rushes, or sedges; and / or 3) contains undrained, wet soil which is anaerobic (lacks oxygen). Because wetlands may be wet for only part of the year or may be dry for more than a year at a time, the identification of wetlands can be difficult.

In this issue of* Growing WILD *we will explore Utah's unique wetlands.* Nature's Call, *designed for the fourth grade science core, reveals the fascinating and complex world of wetlands. For your class set of* Nature's Call, *contact the Project WILD office.



garter snake

Utah's Wetlands

Utah's wetlands are different from the prairie potholes of North Dakota, the coastal marshes of California and the mangrove swamps of Florida, yet they are just as important. In general, there are four types of wetlands in Utah.

Playas are wetlands that occur as shallow lakes or dry salt flats and generally are found in the western and southern parts of the state. Salt flats do not appear to be wetlands, but beneath the hard, saline crust the soil remains saturated from precipitation and groundwater runoff. If you visit a playa like those associated with Sevier Lake, you will find salt grass which thrives in moist, salty soil. You would also see alkali bulrush and pickleweed covering the margins of the playas. Playas are important resting stops for migratory birds like pintail ducks and sandhill cranes. Recent estimates suggest that more than two million waterfowl use playa lakes each year during migration.

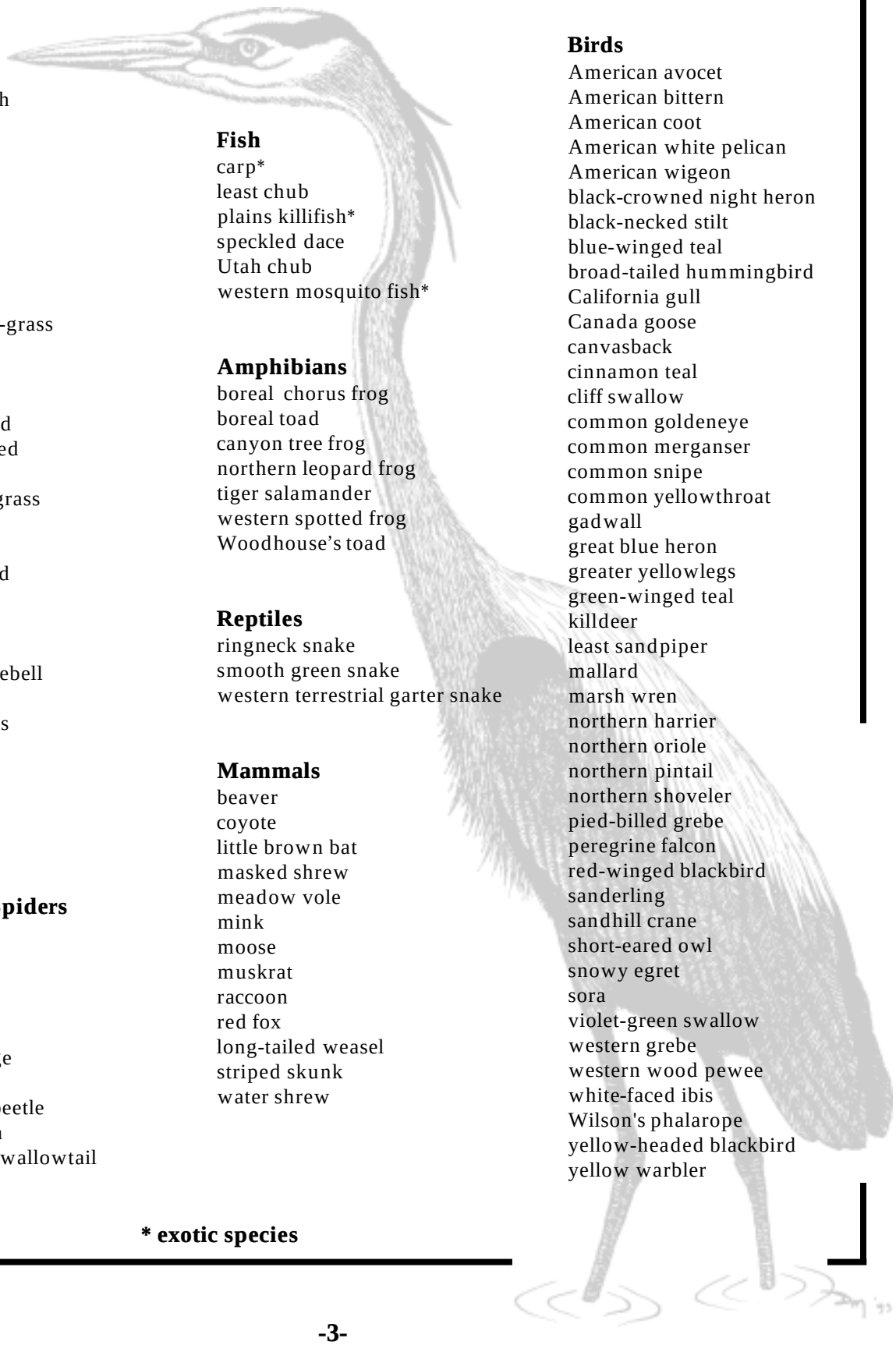
Wet meadows are wetlands found in the mountains at higher elevations. Heavy vegetation cover causes this important but frequently overlooked wetland to appear dry. Wet meadows are valuable wildlife habitat serving a diversity of species throughout the year. Shorebirds, raptors and songbirds share these productive wetlands with deer, elk, moose and red foxes. Visit a wet meadow in the Wasatch mountains and you will find these plants: wild iris, mint, bistort and vetch.

Riparian or streamside wetlands are found along lakes, rivers and streams. In Utah's dry climate, these wetlands are uncommon, but among the most productive of all habitats. The types of plants and animals in riparian wetlands vary greatly with elevation. At higher elevations such as streams in the La Sal mountains, you will find aspens and willows lining the streambanks. The Bear River, at lower elevations, is lined with cottonwoods and willows. In all areas of the state, streamside wetlands are like an oasis to wildlife. Tiger salamanders, bald eagles, belted kingfishers, dippers, river otters and a countless number of insects inhabit the shores.

Marshes are found in association with freshwater ponds and lakes. Most wetlands found at lower elevations in Utah are of this type. The wetlands of the Great Salt Lake are good examples of marshes. Marshes are highly productive and critically important to wildlife. If you visit Bear River Migratory Bird Refuge, you will see the cattails, bulrushes and pond weed that characterizes marsh vegetation. You will also discover an unbelievable abundance of wildlife. Muskrats, minks, raptors, beetles, midges, marsh wrens, carp and many different migratory birds are some of the residents of Utah's marshes.

Common Plants and Animals of Utah's Wetlands

The wetlands of Utah offer a diversity of wildlife. Listed below are some of the more common wetland plants and animals. The animals are listed by class. Exotic species are denoted with an asterisk.



Plants
American vetch
arrowgrass
aspen
bistort
blue vervain
box elder tree
bulrushes
buttercups
cattails
Canadian reed-grass
cottonwoods
small burreed
manna grass
marsh marigold
marsh milkweed
mint
Nuttall alkali-grass
pickleweed
river birch
sago pondweed
salt grass
sea blight
sedges
streamside bluebell
tamarisk*
tufted hairgrass
twinberry
water sedge
wild iris
willows

Insects and Spiders
damselfly
dragonfly
horse fly
mayfly
mosquito
phantom midge
vinegar fly
waterlily leaf beetle
water boatman
western tiger swallowtail

Fish
carp*
least chub
plains killifish*
speckled dace
Utah chub
western mosquito fish*

Amphibians
boreal chorus frog
boreal toad
canyon tree frog
northern leopard frog
tiger salamander
western spotted frog
Woodhouse's toad

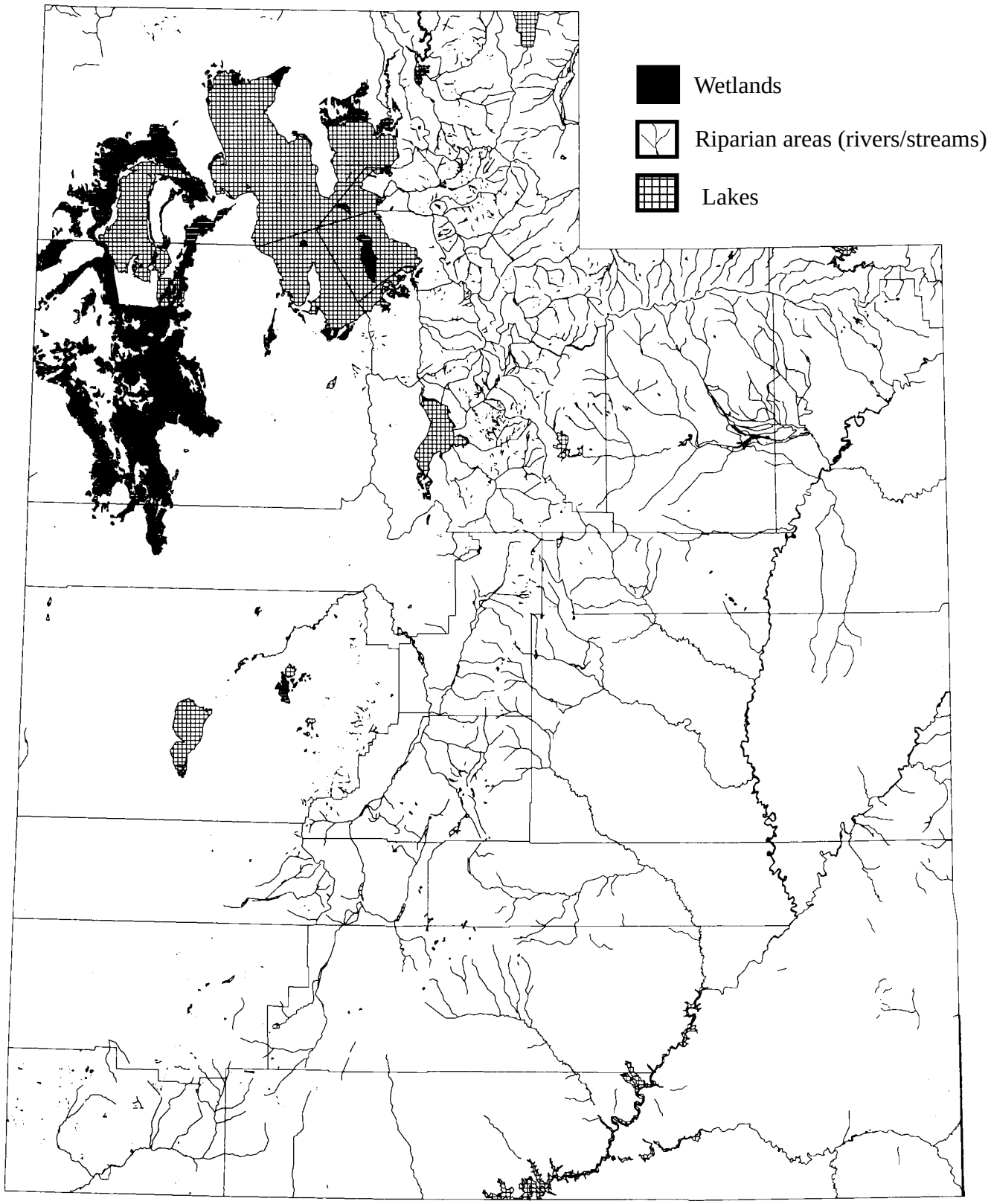
Reptiles
ringneck snake
smooth green snake
western terrestrial garter snake

Mammals
beaver
coyote
little brown bat
masked shrew
meadow vole
mink
moose
muskrat
raccoon
red fox
long-tailed weasel
striped skunk
water shrew

Birds
American avocet
American bittern
American coot
American white pelican
American wigeon
black-crowned night heron
black-necked stilt
blue-winged teal
broad-tailed hummingbird
California gull
Canada goose
canvasback
cinnamon teal
cliff swallow
common goldeneye
common merganser
common snipe
common yellowthroat
gadwall
great blue heron
greater yellowlegs
green-winged teal
killdeer
least sandpiper
mallard
marsh wren
northern harrier
northern oriole
northern pintail
northern shoveler
pied-billed grebe
peregrine falcon
red-winged blackbird
sanderling
sandhill crane
short-eared owl
snowy egret
sora
violet-green swallow
western grebe
western wood pewee
white-faced ibis
Wilson's phalarope
yellow-headed blackbird
yellow warbler

*** exotic species**

Wetlands of Utah



Objectives: Students will be able to:
- identify wetlands in the state of Utah.
- analyze the importance of wetlands to migrating birds.

Method: Students plot a flyway (migration route) for migrating Canada geese through the state of Utah.

Background: Anywhere from 50,000 to 75,000 Canada geese travel through Utah every year, heading north in the spring and south in the fall flying as far as 250 miles a day. Flyways crossing the United States provide safe travel for over 1,000,000 Canada geese each year. Canada geese winter in southwest Arizona and migrate to Canada to nest. (Some Canada geese nest in Utah.) All migrating water birds need to stop at reservoirs, lakes, marshes and other wetlands to eat and rest. Thus, the availability of wetlands along flyways is as important as the presence of wetlands in breeding and wintering habitat. The primary threat to the survival of migratory water birds is the disappearance and degradation of wetlands. Without wetlands, dozens of species of ducks, geese, swans and other water birds, as well as migratory songbirds, face the loss of necessary habitat for survival.

Materials:
- a blank Utah map for each student
- a Utah road map for each group of 2-3 students

Procedure:
1. Present the above background material to your students. Divide the class into small groups of 2-3 students. Give each student a blank Utah map. Give each group of students a Utah road map.

2. Using the state road maps for reference, have your students draw in the wetlands, waterfowl management areas and designated bird refuges listed below on their own Utah maps.
- Ouray National Wildlife Refuge
- Timpie Springs Waterfowl Management Area
- Salt Creek Waterfowl Management Area
- Clear Lake Waterfowl Management Area
- Fish Springs National Wildlife Refuge
- Topaz Marsh
- Fish Lake
- Great Salt Lake marsh areas

3. Ask your students to consider the distance between these wetland resting places. What would happen to the migrating geese if some of these wetlands were destroyed? Ask the students to find some additional wetland areas on the state map to add to their own maps.

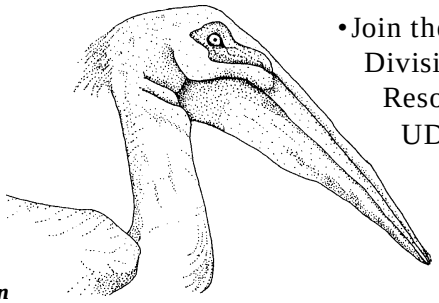
4. Now ask the students to draw a line connecting these wetlands to form a flyway.

Extension: Provide your students with blank maps and state road maps of Arizona, Idaho and Montana. Have your students plot a complete flyway from southern Arizona through Montana. Discuss why the survival of Canada geese is dependent upon the availability of wetlands in all of these states.

May is National Wetlands Month!

Here is a list of ways students can get actively involved in learning about wetlands.

Adopt a local wetland:



white pelican

- Join the Adopt-a-Waterbody program co-sponsored by the Utah Division of Water Quality (UDWQ) and the Utah Division of Wildlife Resources (UDWR). For details call the UDWQ at 538-6516 or call UDWR at 538-4769.

- Work with community organizations to clean and maintain a local wetland.

- Encourage local governments and businesses to form partnerships to preserve a local wetlannd.

Monitor a wetland:

mayfly larva

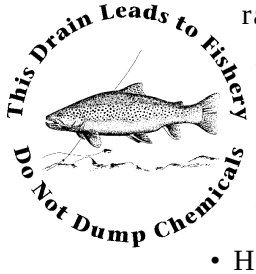
- Keep a list of species seen in the wetland and note the date.

- Measure water quality using pH, temperature, color, turbidity and dissolved oxygen.

- Sample for aquatic insects, crustaceans, fish and amphibians using them as indicators of water quality.

- Check for animal tracks around the wetland to see what animals use the wetland.

Raise community awareness:



- Label storm drains using stencils and paint to raise community awareness about dumping pollutants into waterways.

- Visit or write your county planners to see how wetlands are handled in the local planning process.

- Hold a poster or essay contest using wetlands as a theme. Display the posters in your school or at local business and community centers to raise public awareness.

- Have students write and read school announcements during May to raise the awareness of their peers about wetlands.

- Contact the Museum of Natural History and ask for the activity guide called The Great Salt Lake Story. Call 581-4887 for more information.

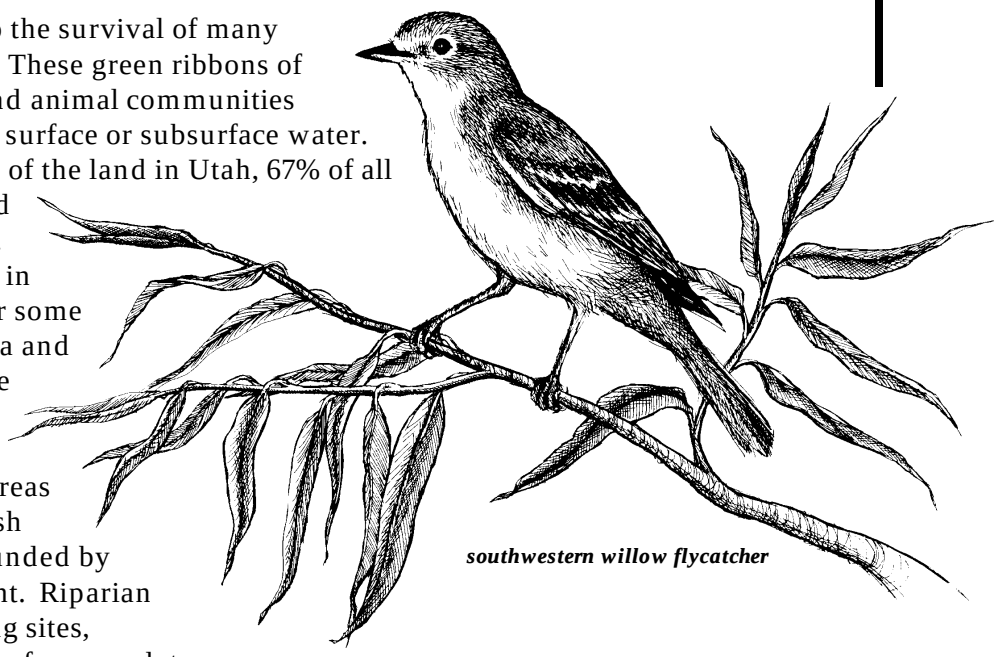
WILD over Wetlands

Raise your students' awareness and understanding of wetlands by doing these Project WILD activities:

- **Wetland Metaphors**
- **Are You Me?**
- **Marsh Munchers**
- **Dragonfly Pond**
- **Migration Headache**
- **Riparian Retreat**

Riparian Areas: Ribbons of Life

Riparian areas are critical to the survival of many species of Utah's wildlife. These green ribbons of life are defined as plant and animal communities associated with moving bodies of surface or subsurface water. Although they cover less than 2% of the land in Utah, 67% of all neotropical bird species that breed in Utah depend on riparian areas. 75% of the 360 bird species found in Utah depend on riparian areas for some part of their life cycles. In Arizona and New Mexico, 80% of all vertebrate species use riparian areas.



southwestern willow flycatcher

Animals concentrate in riparian areas because of the open water and lush vegetation which are often surrounded by a much harsher, drier environment. Riparian areas provide food, shelter, nesting sites, migration corridors and protection from predators and extreme heat. These areas filter sediments, add nutrients to aquatic systems and shade aquatic systems, keeping water temperatures from reaching extremes. They also reduce soil erosion and the effects of flooding.

One riparian ecosystem found in Utah is the cottonwood/ willow forest. The willows form a dense understory and the tall cottonwoods make up the canopy. The vertical structure of the forest provides many niches for animals to occupy. Studies have shown that riparian areas in the Southwestern United States have a higher breeding diversity of birds than all other western habitats combined!

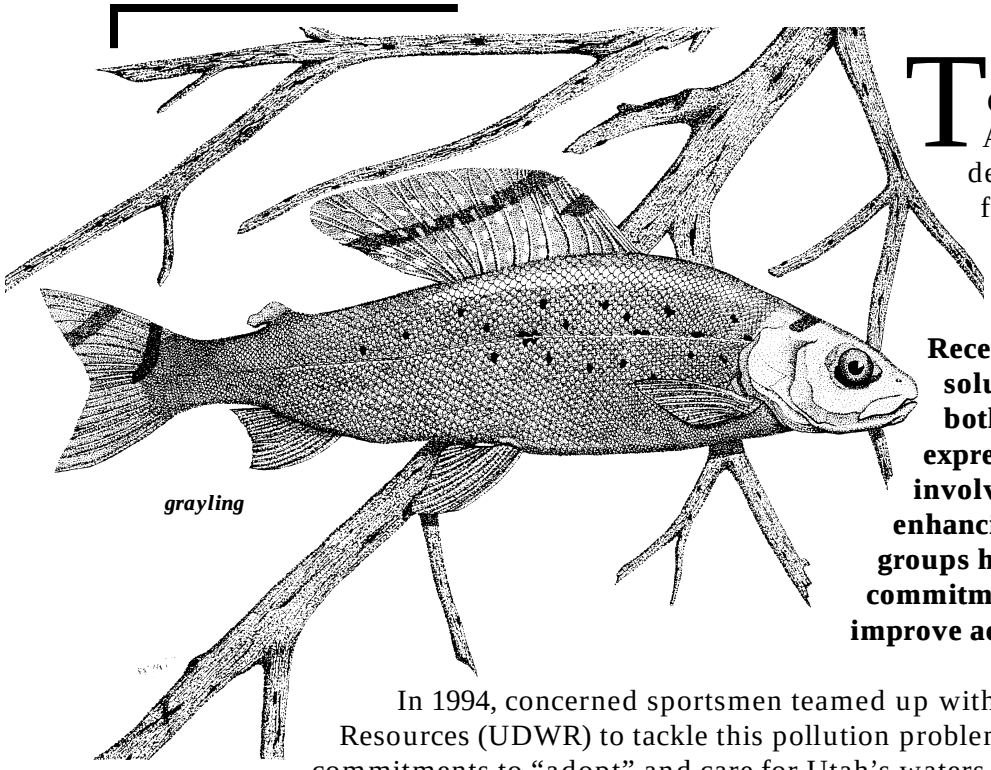
Unfortunately, the western cottonwood / willow forest is the most threatened of the 106 forest types found in North America. Urban development, agricultural clearing, grazing, channelization, reservoirs, recreation, irrigation, invasion of exotic species (tamarisk), erosion and firewood collecting have all contributed to the decline of riparian areas. California has lost over 98% of its riparian habitat and in Arizona, only 10% of the state's original cottonwood / willow forests are left standing.

The animals most affected by declines in riparian habitat are riparian-dependent species. Affected amphibians include the red-spotted toad, canyon treefrog and the lowland leopard frog. Riparian-dependent bird species include the yellow warbler, yellow-billed cuckoo, southwestern willow flycatcher and the Bell's vireo.

Southwestern Willow Flycatcher
(*Empidonax trailli extimus*)

The southwestern willow flycatcher is a subspecies of the willow flycatcher whose breeding range extends into southern Utah. Wintering in Central America and Mexico, it migrates north in the spring and breeds throughout the southwestern United States. It arrives in mid-May and prefers to nest in the dense understory of willow, seepwillow and buttonbush under a canopy of scattered cottonwoods. This olive-colored insectivore with a pale yellow belly is distinguished from other willow flycatcher subspecies by its song and call. As riparian areas have been modified or lost, the southwestern willow flycatcher population has decreased to an estimated 230-500 pairs. As a result, this flycatcher was listed as an endangered species on February 27, 1995. Historically, the southwestern willow flycatcher has been observed in Utah along Kanab Creek and the Virgin, Colorado and San Juan Rivers. Only three confirmed sightings have taken place in Utah within the last five years.

Join Utah's Stream Team!



grayling

Three years ago, the Salt Lake County Fish and Game Association conducted a survey to determine the problems facing sport fishing in Utah. Litter and other pollution were identified as the major ethical issues.

Recent surveys have also revealed a solution to the problem. Utahns, both anglers and nonanglers, have expressed great interest in becoming involved in cleaning, restoring and enhancing our streams and lakes. Some groups have started made long-term commitments to tackle pollution and improve aquatic habitats.

In 1994, concerned sportsmen teamed up with the Utah Division of Wildlife Resources (UDWR) to tackle this pollution problem by making two-year commitments to "adopt" and care for Utah's waters.

The program involves much more than just cleanup. Stream teams can also monitor and improve habitat conditions. Monitoring streams involves studying aquatic insect numbers, kinds and varieties. The presence of "pollution tolerant" insects may indicate the presence of pollution in the stream. Riparian areas surrounding the streams surveyed to determine the presence of certain songbirds that serve as "indicator" species of riparian area health.

Tom Pettengill, DWR Sport Fisheries Program Coordinator has been impressed by the creativity, commitment and willingness shown by conservation groups. "We had a group of boy scouts that painted curbs and storm drain covers to alert the public that these drains emptied into rivers. They did all their own research to find out which manholes drained into rivers." Chemicals such as herbicides, fertilizers and lawn-care chemicals can destroy habitat, fish and other aquatic life when dumped into rivers through storm drains. The number of fish kills on Utah's waterways has steadily increased over the past ten years. Education efforts such as painting storm drain covers are an important effort in preventing fish kills.

There are plenty of opportunities to get involved. The UDWR has identified several hundred miles of streams and lake shoreline that need help. For groups that make the commitment, the DWR provides garbage sacks, educational materials and recognition signs. Several thousand dollars are available for habitat projects. Groups interested in caring for Utah's aquatic resources should contact: UDWR Aquatic Education Coordinator at (801) 538-4769.

Utah Fish Poster

Here is your chance to get the new Fishes of Utah poster. Created by the Aquatic Education Program, this colorful and informative poster is distributed at fish hatcheries throughout the state. If you are interested in taking your class to a fish hatchery to participate in one of the fishery education programs, you can call the UDWR Aquatic Education Coordinator at (801) 538-4717. If you want a free copy of the poster for your classroom, call Project WILD.

WILD Index

Water Consumption

The following data was gathered from a variety of sources. If you want the source, please contact the Project WILD office.

• Utah is the second driest state in the nation averaging only 13 inches of rain per year.

• 87.3% of Utah's water is used for agriculture and irrigation, 9.2% for public and domestic uses and 3.5% for commercial and industrial uses.

• The following is a list of the average gallons of water used per person per day in some Utah counties: Piutte 780, Garfield 500, Box Elder 479, Millard 459, Washington 365, Salt Lake 267, Weber 212, Emery 172, Davis 154.

• The average homeowner in Utah uses 180 gallons of water a day to water the lawn.

• Utahn's use a total of 6 million acre feet of water per year: that's almost 2 trillion gallons of water! (One acre-foot of water equals about 326,000 gallons.)

• The average American uses 70 times the amount of water as the average resident of Ghana.

• Hosing down driveways and sidewalks uses up to 25 gallons of water in ONE minute. Sweeping with a broom uses no water.

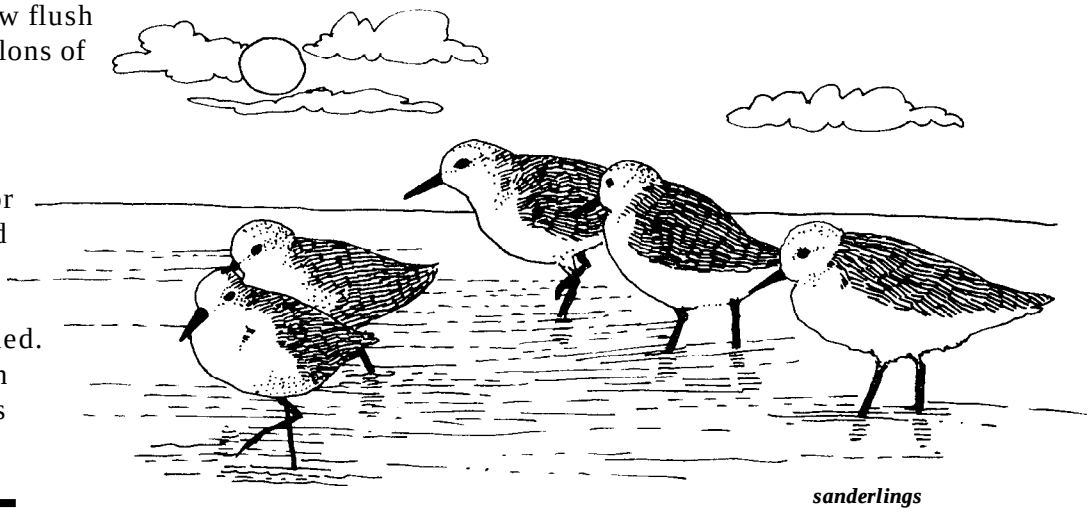
• It takes 2,607 gallons of water to produce one serving of steak and 408 gallons to produce one serving of chicken.

• Leaving the water running while brushing teeth, shaving or doing dishes uses at least one gallon of water per minute, most of it wasted.

• If every American could manage to use one less gallon of water per day, we could save some 85 billion gallons of water in one year.

• Conventional toilets use 4 to 7 gallons of water per flush. Ultra-low flush toilets use as little as 1.5 gallons of water per flush.

• Only 1% of the world's water is drinkable ground or surface water. In the United States, only 1% of the total water treated for drinking is actually consumed. The rest is used on lawns, in washing machines and goes down toilets and drains.



sanderlings

Summer Studies

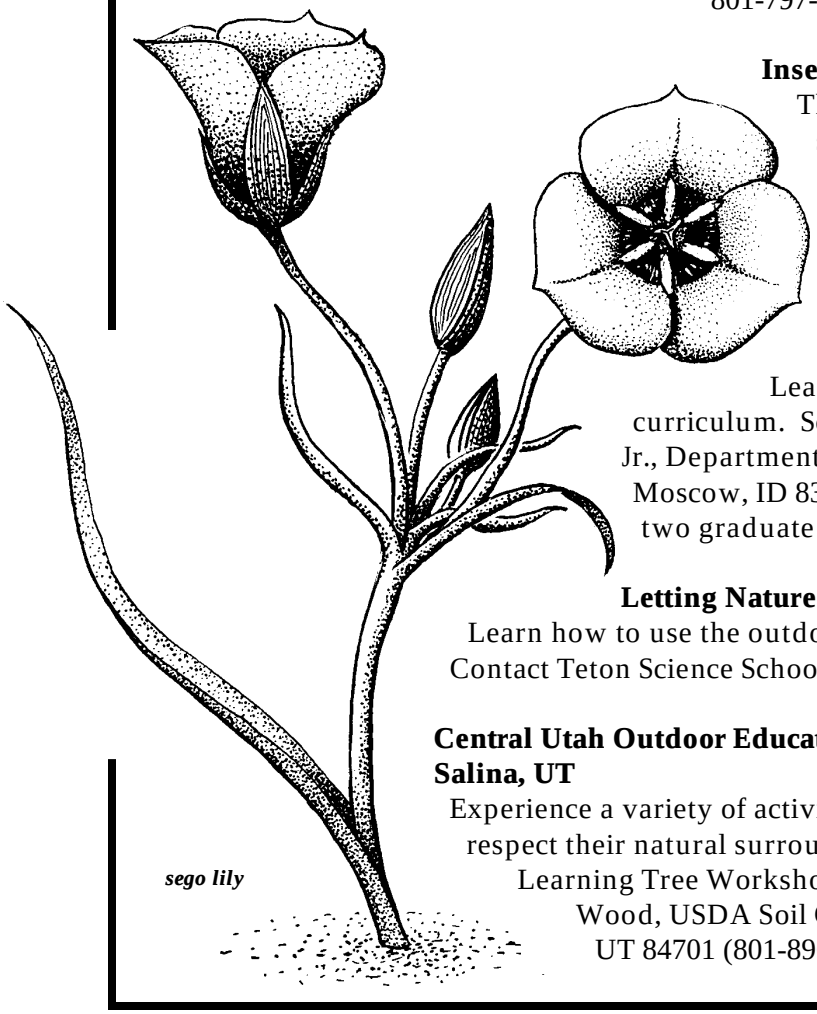
Time to Grow

The Alpine Conference
Study environmental education, problem-solving techniques and teaching strategies in a beautiful natural setting. June 18-23, Alpine Wyoming. For details, contact Dr. Richard McCloskey, Department of Biology, Boise State University, Boise, ID 83725 (800-632-6586, ext. 3490).

"Utah Flora: Plants of the Eastern Uintas" - Utah Museum of Natural History
A workshop and field trip designed to sharpen your skills at identifying plants. $112 includes materials and 3 inservice credits. Contact Linda Monum at 801-581-4887.

Great Salt Lake Audubon Basin and Range Seminar
Study Utah's basin and range ecology, June 10-11, in the Deep Creek Mountains of Western Utah. Call Jeanne Le Ber at 801-532-7384 in the evenings for more information. Fee is $25.

Logan Canyon Teacher's Workshop - USU College of Natural Resources
This workshop includes integrating environmental education themes and topics into the school curriculum, using the school grounds to enhance classroom teaching. Fee of $225 covers room, board and materials. Contact Dr. Sharon Ohlhurst at 801-797-2580.



sego lily

Insect Safari - Utah Museum of Natural History
This workshop covers insects for elementary school teachers. June 23rd 4:30 p.m. - 7:30 p.m. and 24th 8:30 a.m. - 4:30 p.m. Fee of $45 includes inservice credit. Contact Linda Monum at 801-581-4887.

Fish and Wildlife Ecology Workshop - University of Idaho
Learn to use hands-on activities to teach across the curriculum. Scholarships available. Contact Lewis Nelson, Jr., Department of Fish and Wildlife, University of Idaho, Moscow, ID 83844-1136. Fee of $200 covers room, board and two graduate credits.

Letting Nature Teach - Teton Science School
Learn how to use the outdoors to complement your classroom teaching. Contact Teton Science School at 307-733-4765. Fee is $320.

Central Utah Outdoor Education Workshop - Gooseberry Ranger Station, Salina, UT
Experience a variety of activities designed to help students understand and respect their natural surroundings. Full Project WILD and Project Learning Tree Workshops are offered. July 31- August 4. Contact Bill Wood, USDA Soil Conservation Service, P.O. Box 534, Richfield, UT 84701 (801-896-6441).

Resources

Call Project WILD for your copy of the materials listed below, (801) 538-4719 or 538-4720.

The Wolf in the United States - Reintroduction - Students and teachers can get the big picture of wolf recovery in the United States by reading this eight-page newsletter from the International Wolf Center. Permission is granted to reprint for educational purposes.

Idaho's Migratory Birds - This sixteen-page leaflet covers the description, habitats and conservation of Idaho's migratory birds most of which are common to Utah.

"Home is Where the Habitat Is" - National Wildlife Week, April 16-22, 1995 - This educational packet contains information and activities focusing on the connections between animals and their habitat and the role of humans in the natural environment.

Wetlands of Utah - An attractive and informative booklet which classifies Utah's diverse wetland types and identifies the vegetation, wildlife and locations of each.

Raptor Ecology Activity Guide from Hawkwatch International, Inc. - Study the ecology, identification and adaptations of Utah's birds of prey using this 36-page activity guide. Contact Hawkwatch International, P.O. Box 660, Salt Lake City, UT 84110 (801-524-8511).

Utah Bald Eagle Poster - Created for Bald Eagle Day, this poster focuses attention on the more than 1200 bald eagles that winter in the Beehive State every year.

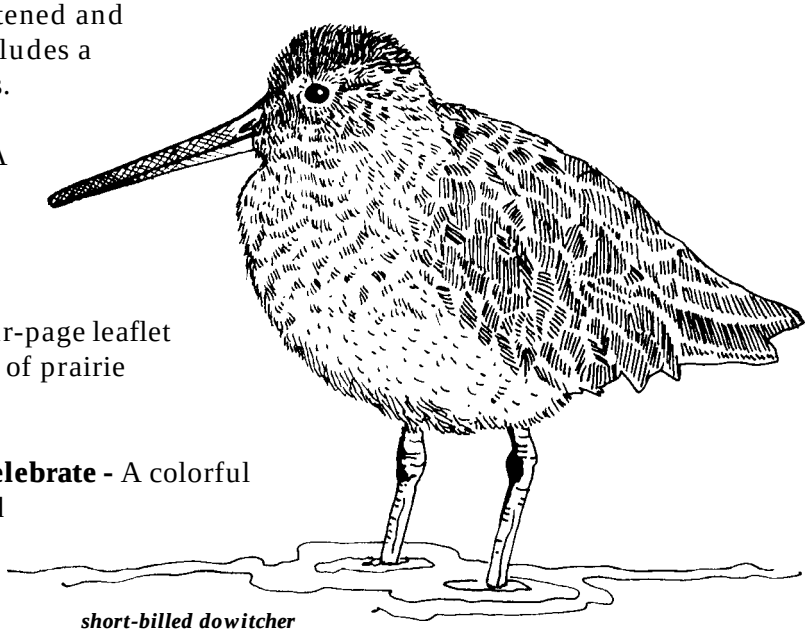
Gila Monster Poster from New Mexico - Enhance your classroom with a poster of Utah's largest native lizard.

"Wildlife ... Yours to Recover" - Canadian Wildlife Federation - Created for the Canadian National Wildlife Week, April 9-15, 1995, this packet includes action-oriented information and an activity guide focusing upon Canada's threatened and endangered wildlife. Packet also includes a poster of a colony of burrowing owls.

Wetlands and the General Public - A two-page fact sheet from the EPA covering general information about wetlands.

Wetlands, Wildlife, and You! - A four-page leaflet that focuses attention on the ecology of prairie potholes of the midwest.

American Wetlands: A Reason to Celebrate - A colorful brochure highlighting the values and functions of wetlands. Also contains suggestions for actions to help conserve wetlands.



short-billed dowitcher

project WILD®

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Division of Wildlife Resources

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